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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,613	10/09/2001	Tokuro Kubo	FUJH 19.062	6267
26304	7590	01/24/2005		EXAMINER
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585				FAN, CHIEH M
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/973,613	KUBO ET AL.	
	Examiner Chieh M Fan	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 October 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-26 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-26 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 09 October 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10092001</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the elements 35a-35d in Fig. 6 should be changed to "Variable modulating VCO" (see page 29, lines 7 and 17). Further, the element 57 in Fig. 11 should be changed to "Route calculator" so as to be consistent with the description in the specification (see, for example, page 43, line 19 or page 20, line 26). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figure 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: "calculator 44a" in line 12 of page 25 apparently should be changed to --- calculator 55a ---.
Appropriate correction is required.

Claim Objections

4. Claims 8, 10, 15-18 and 25 are objected to because of the following informalities:
Regarding claim 8, "the result" in line 5 should be changed to --- the modulated digital input signal --- to improve the clarity of the claim. Similarly, "the result" in line 8 should be changed to --- the modulated analog signal ---.

Regarding claim 10, “a numerical value, comprising a real part and an imaginary part” in lines 8-9 should be changed to --- the numerical value, comprising the real part and the imaginary part --- since such limitation has been recited in lines 5-6.

Regarding claim 15, it appears that the limitation “or said distortion-compensation coefficient becomes “0”” in the last two lines should be changed to --- or the imaginary part of said distortion-compensation coefficient becomes “0” ---.

Regarding claim 16, “based on the result of said comparison” in lines 8-9 should be changed to --- based on a result of the comparison ---.

Regarding claim 17, “the result” in line 6 should be changed to --- the modulated digital input signal --- to improve the clarity of the claim. Similarly, “the result” in line 9 should be changed to --- the modulated analog signal ---.

Regarding claim 18, “a numerical value, comprising a real part and an imaginary part” in lines 10-11 should be changed to --- the numerical value, comprising the real part and the imaginary part --- since such limitation has been recited in lines 7-8.

Regarding claim 25, “a numerical value, comprising a real part and an imaginary part” in lines 10-11 should be changed to --- the numerical value, comprising the real part and the imaginary part --- since such limitation has been recited in lines 7-8.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "amplifying same" in line 4 is indefinite. It is not clear what the word "same" is referred to which signal. It appears to the examiner that such limitation should be changed to --- amplifying the analog signal ---. Similarly, the limitation "transmitting same" recited in line 5 is also indefinite. It appears to the examiner that such limitation should be changed to --- transmitting the amplified analog signal ---. Furthermore, claim 1 recites the limitation "said phase difference-compensated feedback signal" in lines 28-29 (lines 2-3 from the bottom). There is insufficient antecedent basis for this limitation in the claim since the exact term "phase difference-compensated feedback signal" has not been recited before in the claim.

Regarding claim 5, the limitations "the predetermined phase of said test pattern signal" (lines 12-13) and "the predetermined phase of said feedback signal" (lines 13-14) have no antecedent basis.

Regarding claim 8, claim 8 recites the limitation "said detected phase difference" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 8 or its parent claim(s). Further, it is not clear whether the limitation "the analog signal" in line 7 is referred to the limitation "a first analog signal" recited in line 7 of claim 1. If they are the same, the limitation "the analog signal" should be changed to --- the first analog

signal ---. However, the examiner feels that the limitation "or performing quadrature modulation and applying the result to said amplifier" in the last four lines of the claim should be written as, --- or performing quadrature modulation of an analog output signal from said first digital/analog converter to generate said first analog signal and supplying the first analog signal to said adder ---, to describe the invention.

Regarding claim 9, the limitation "compose same" in line 7 is indefinite. It is not clear what the word "same" is referred to which signal. Further, claim 9 recites the limitation "said detected phase difference" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 9 or its parent claim(s).

Regarding claim 10, claim 10 recites the limitation "said detected phase difference" in line 8. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 10 or its parent claim(s).

Regarding claim 11, claim 11 recites the limitation "said detected phase difference" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 11 or its parent claim(s).

Regarding claim 12, claim 12 recites the limitation "said detected phase difference" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 12 or its parent claim(s).

Regarding claim 17, claim 17 recites the limitation "said detected phase difference" in lines 13-14. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 8 or its parent claim(s). Further, it is not clear whether the limitation "the analog signal" in line 8 is referred to the limitation "a first analog signal" recited in line 7 of claim 1. If they are the same, the limitation "the analog signal" should be changed to --- the first analog signal ---. However, the examiner feels that the limitation "or performing quadrature modulation and applying the result to said amplifier" in lines 7-10 of the claim should be written as, --- or performing quadrature modulation of an analog output signal from said first digital/analog converter to generate said first analog signal and supplying the first analog signal to said adder ---, to describe the invention.

Regarding claim 18, claim 18 recites the limitation "said detected phase difference" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 18 or its parent claim(s).

Regarding claim 19, claim 19 recites the limitation "said detected phase difference" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 19 or its parent claim(s).

Regarding claim 20, claim 20 recites the limitation "said detected phase difference" in lines 8-9. There is insufficient antecedent basis for this limitation in the

claim since the exact term "detected phase difference" has not been recited before in claim 20 or its parent claim(s).

Regarding claim 21, claim 21 recites the limitation "said detected phase difference" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 21 or its parent claim(s).

Regarding claim 24, claim 24 recites the limitation "said detected phase difference" in line 15. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 24 or its parent claim(s). Further, it is not clear whether the limitation "the analog signal" in line 9 is referred to the limitation "a first analog signal" recited in line 7 of claim 1. If they are the same, the limitation "the analog signal" should be changed to --- the first analog signal ---. However, the examiner feels that the limitation "or performing quadrature modulation and applying the result to said amplifier" in lines 8-11 of the claim should be written as, --- or performing quadrature modulation of an analog output signal from said first digital/analog converter to generate said first analog signal and supplying the first analog signal to said adder ---, to describe the invention.

Regarding claim 25, claim 25 recites the limitation "said detected phase difference" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim since the exact term "detected phase difference" has not been recited before in claim 25 or its parent claim(s).

Regarding claim 26, the limitation "amplifying same" in line 4 is indefinite. It is not the word "same" is referred to which signal. It appears to the examiner that such limitation should be changed to --- amplifying the analog signal ---. Similarly, the limitation "transmitting same" recited in line 5 is also indefinite. It appears to the examiner that such limitation should be changed to --- transmitting the amplified analog signal ---. Further, claim 26 recites the limitation "said transmitting device" in lines 21-22. There is insufficient antecedent basis for this limitation in the claim. Furthermore, claim 26 recites the limitation "said phase difference-compensated feedback signal" in line 26 (line 2 from the bottom). There is insufficient antecedent basis for this limitation in the claim. The applicants are also invited to identify which signal in the specification is the claimed "phase difference-compensated feedback signal."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ishikawa et al. (U.S. Patent No. 6,757,525), Lagerblom et al. (U.S. Patent No. 6,639,950), Oishi et al. (U.S. Patent No. 6,567,478), Moriyama et al. (U.S. Patent No. 5,903,823), Ichiyoshi (U.S. Patent No. 5,699,383), Kubo et al. (US 2001/0051504).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (571) 272-

3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM,
Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Chieh M Fan
Primary Examiner
Art Unit 2634

January 11, 2005